

Question 1 Write a program to calculate the volume, surface area, and circumference of a capsule having radius r ranging from 6 to N in increments of 6 and side length a, where N and a are determined by the user.

ScreenShot-1:

```
(base) PS D:\study\Main learning\saint_mary> python .\code_base_1.py
Enter the value of 'N': 45
Enter the value of 'a': 6
This program prints the volume, surface area& circumference of a capsule having radius r ranging from 6 to N in increments of 6 and side lengths a.
```

Radius	Volume	Surface Area	Circumference
6	1583.363	678.584	37.6991
12	9952.566	2261.9467	75.3982
18	30536.281	4750.0881	113.0973
24	68763.18	8143.0082	150.7964
30	130061.936	12440.7069	188.4956
36	219861.22	17643.1843	226.1947
42	343589.705	23750.4405	263.8938

ScreenShot-2:

```
(base) PS D:\study\Main learning\saint_mary> python .\code_base_1.py
Enter the value of 'N': 54
Enter the value of 'a': 2.50
This program prints the volume, surface area& circumference of a capsule having radius r ranging from 6 to N in increments of 6 and side lengths a.
```

Radius	Volume	Surface Area	Circumference
6	1187.522	546.6371	37.6991
12	8369.203	1998.0529	75.3982
18	26973.715	4354.2474	113.0973
24	62429.729	7615.2206	150.7964
30	120165.919	11780.9725	188.4956
36	205610.956	16851.503	226.1947
42	324193.512	22826.8122	263.8938
48	481342.26	29706.9001	301.5929
54	682485.871	37491.7667	339.292

ScreenShot-3:

```
(base) PS D:\study\Main learning\saint_mary> python .\code_base_1.py
Enter the value of 'N': 100
Enter the value of 'a': 10
This program prints the volume, surface area& circumference of a capsule having radius r ranging from 6 to N in increments of 6 and side lengths a.
```

Radius	Volume	Surface Area	Circumference
6	2035.752	829.3805	37.6991
12	11762.123	2563.5396	75.3982
18	34607.785	5202.4774	113.0973
24	76001.409	8746.1939	150.7964
30	141371.669	13194.6891	188.4956
36	236147.237	18547.963	226.1947
42	365756.783	24806.0156	263.8938
48	535628.981	31968.8468	301.5929
54	751192.503	40036.4568	339.292
60	1017876.02	49008.8454	376.9911
66	1341108.205	58886.0127	414.6902
72	1726317.73	69667.9587	452.3893
78	2178933.266	81354.6834	490.0885
84	2704383.487	93946.1867	527.7876
90	3308097.064	107442.4688	565.4867
96	3995502.67	121843.5295	603.1858